

REPRODUCTION OF THE PRAIRIE SKINK, *EUMECES SEPTENTRIONALIS*, IN NEBRASKA

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ABSTRACT.—Clutch sizes of the prairie skink, *Eumeces septentrionalis*, in Nebraska are positively correlated with female snout-vent lengths (SVLs). Data presented in this study and others indicate Nebraska populations of *E. septentrionalis* have larger average clutch sizes than other populations within this species' range.

The prairie skink, *Eumeces septentrionalis*, is a semi-fossorial, oviparous lizard inhabiting the central lowland province region and tall-grass prairies of North America (Breckenridge 1943, Nelson 1963). In Nebraska, *E. septentrionalis* is found primarily in tall-grass prairies (Lynch 1985) and urban habitat (Somma 1985a). Few reproductive data exist for Nebraska populations (Gehlbach and Collette 1959, Iverson 1976, Somma 1985b). This study summarizes data on clutch size and SVL of 21 captive female *E. septentrionalis* collected in eastern Nebraska.

Eighteen gravid females from Douglas County and three from Pawnee County were collected in May 1984 and placed in separate plastic terraria containing a moist soil substrate. Each terrarium contained a 15 × 15-cm acrylic plate under which the skinks could oviposit. The skinks were fed crickets and mealworms *ad libitum*. A 14L:10D photoperiod was maintained for the duration of the study.

Oviposition occurred between 18 and 30 June, and the eggs were brooded by the females. Measurements of initial egg dimensions were obtained for each clutch (Table 1). An egg that was removed from one clutch immediately upon oviposition contained an embryo in an advanced stage (32–33) of development (Dufaure and Hubert 1961). One female died before ovipositing and was found to contain 7 oviducal eggs that were included in the analysis. The mean clutch size was 10.95 ± 0.85 eggs (range = 4–18). A linear regression (Sokal and Rohlf 1981) indicates that clutch size has a highly significant positive

TABLE 1. Female SVL, clutch size, and mean egg dimension for *Eumeces septentrionalis*.

SVL (cm)	Clutch size	Mean egg dimension (length x diameter cm)
7.88	18	1.26 × 0.81
6.96	7	1.31 × 0.86
7.42	11	1.27 × 0.76
6.96	13	1.15 × 0.69
6.30	4	**
6.74	7*	**
7.48	11	1.08 × 0.72
6.77	4	1.21 × 0.72
6.64	6	1.18 × 0.74
8.00	13	1.20 × 0.71
7.14	11	1.32 × 0.85
6.96	8	1.23 × 0.80
7.28	12	1.19 × 0.74
7.98	17	1.05 × 0.71
8.04	17	1.14 × 0.81
7.38	11	1.09 × 0.76
6.96	13	1.21 × 0.73
7.48	11	1.04 × 0.82
6.82	11	1.05 × 0.77
7.50	13	1.04 × 0.78
7.32	12	**

*oviducal egg count
**not obtained

correlation with female SVL (Fig. 1, $r^2 = 0.706$, $P < .0001$). Clutch sizes for other populations of *Eumeces septentrionalis* are as follows: Minnesota, $\bar{x} = 8.79$, $N = 19$ (Breckenridge 1943), $\bar{x} = 6.60$, $N = 9$ (Nelson 1963); Wisconsin, 4–6, $N = 3$ (Vogt 1981); Nebraska, $\bar{x} = 14.5$, $N = 2$ (Gehlbach and Collette 1959), $\bar{x} = 14.0$, $N = 5$ (Iverson 1976), $\bar{x} = 14.7$, $N = 3$ (Somma 1985b); Kansas, $\bar{x} = 8.00$, $N = 4$ (Clarke 1955); Texas, 9, $N = 1$ (Smith and Slater 1949), 9, $N = 1$ (Sabath and Worthington 1959).

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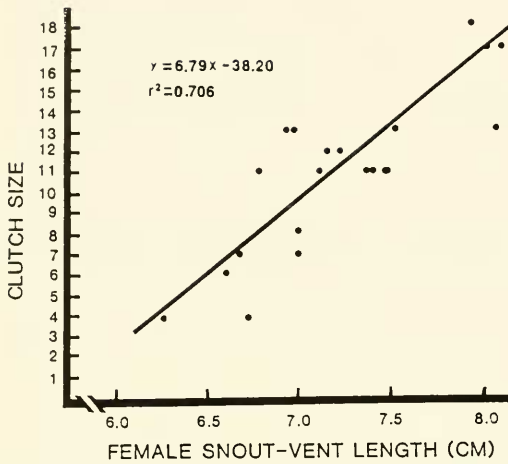


Fig. 1. Regression plot of clutch size vs. female SVL for *Eumeces septentrionalis*.

Fitch (1985) has summarized clutch size data for *Eumeces septentrionalis* using previously published data. Populations were described as "northern" (Breckenridge 1943) or "southern" (Clarke 1955, Gehlbach and Collette 1959, Sabath and Worthington 1959, Iverson 1976) and were combined to obtain a mean for "northern" populations and another larger mean representing "southern" populations (Fitch 1985). These data were used to illustrate a north-south trend in increasing clutch size within this lizard's range. Listing Nebraska and Kansas populations as southern, however, is inappropriate and results in an unnaturally large mean. Earlier studies suggesting that Nebraska populations of *E. septentrionalis* have larger clutch sizes than others to the northern and southern ends of its range (Gehlbach and Collette 1959, Iverson 1976) are supported by this study. Mean clutch sizes in these previous studies, however, could have been exaggerated by the limited sample sizes. Larger samples obtained from other populations throughout this species range, along with corresponding SVL data, would greatly facilitate comparisons of reproductive data.

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